

ABSTRACT OF THE DISCLOSURE

A method and apparatus for preventing N_2O from becoming super critical during a high pressure oxidation stage within a high pressure oxidation furnace are disclosed. The method and apparatus utilize a catalyst to catalytically disassociate N_2O as it enters the high pressure oxidation furnace. This catalyst is used in an environment of between five atmospheres and 25 atmospheres N_2O and a temperature range of 600° to 750°C ., which are the conditions that lead to the N_2O going super critical. By preventing the N_2O from becoming super critical, the reaction is controlled that prevents both temperature and pressure spikes. The catalyst can be selected from the group of noble transition metals and their oxides. This group can comprise palladium, platinum, iridium, rhodium, nickel, silver, and gold.

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